

Halocarbons

Halocarbonsⁱ are chemical compounds such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs) and halons. Halocarbons are used in air conditioning/cooling systems and fire extinguishing systems. When released into the atmosphere, they contribute to global warming, and some of them are ozone-depleting substances (ODS) that destroy the stratospheric ozone layer, which protects the Earth from damaging ultraviolet rays.

Canadian federal and provincial regulations aim to progressively eliminate some halocarbons (CFCs, HCFCs, HFCs and halons). They also regulate the control of halocarbon releases and disposal, as well as the use of qualified labour to manage them.

At Bell, CFCs were phased out in early 2007, replaced by HCFCs and HFCs that are less harmful to the environment. However, HCFCs were only developed to serve as transition cooling agents. They are now targeted internationally, and their elimination is progressively planned in Canada. Specifically, the production of HCFC-22, intended to serve as a refrigerant, will not be allowed in Canada by 2020.

Under the Kigali amendment to the Montreal Protocol (2016), HFCs are now targeted for eventual elimination. In 2020, all Bell's business units will have to review their phase out plan in order to include the HFCs since they were targeting only the HCFC-22.

Bell also phased out halons by mid-2010. Halon fire extinguisher systems were mainly replaced by Early Smoke Detector systems or less environmental harmful agent.

Bell uses approximately 260 tons of refrigerant in over 14,500 air conditioning systems and chillers across the country. These systems average 16 years of service. Of these, more than 75% still use HCFC-22 as refrigerant. Bell also uses approximately 127 tons of FM-200 agent in almost 650 fire-extinguishing systems.

Our halocarbon program has clear and consistent objectives:

- **Protect the ozone layer**
- **Minimize the use of halocarbons**
- **Maintain systems using halocarbons in compliance with applicable regulations**
- **Decommission equipment using HCFCs as soon as possible, in accordance with government regulators' expectations.**

Bell's long-standing commitment to managing halocarbons has resulted in many advances over the last decade, including the following:

- Helping develop an air conditioning system that uses compressed CO₂ as a refrigerant rather than HCFCs
- Creating guidelines for the decommissioning of air conditioning/cooling systems and halon fire extinguishing systems
- Developing phase-out plans aligned with government and industry recommendations for equipment using HCFCs in all business units
- Implementing a reporting process in the event of a halocarbon leak.

Even with the preventive and routine maintenance we conduct on our equipment, releases of halocarbons are inevitable due to mechanical defects and breakdowns. In 2019, our number of halocarbon leaks increased by 3% compared with 2018. Total leaks from air conditioning and fire extinguishing systems represented 4,816 kg of halocarbons, which is similar to the volume leaked in 2018. This is just 1% of the 388 tons of halocarbons we use across the country.

To further reduce leaks and control any future impact, we perform root-cause analyses of incidents and equipment life cycles.

	TREND	2019	2018 ⁱⁱ
Total weight in use (tons)	↑	387	261
Number of leaks	↑	305	295
Amount leaked (tons)	↔	4.8	4.8
Proportion of total weight leaked	↔	1%	2%

ⁱ 2019 halocarbon inventory includes Bell-MTS systems

ⁱⁱ 2018 data has been revised using the 2019 calculation method and does not include Bell-MTS systems